NOTE XXXV.

TWO NEW SPECIES OF THE LUCANOID GENUS CYCLOMMATUS, PARRY

DESCRIBED BY

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Cyclommatus Pasteuri, n. sp. ♂.

(Plate 10, fig. 1).

This magnificent species, the most robust one known up to this day, may easily be recognized by the shape of the strongly porrected clypeus and by the tooth on the outer margin of the under surface of the mandibles near to the base.

Length 54 mm., breadth at the shoulders 14 mm. — The colour of the insect is bronze green with faint coppery tinges, the elytra and upper side of the femora pale yellowish brown with a metallic green and coppery hue; the teeth of the mandibles glossy black, and the palpi and antennae dark pitchy brown; the thickened outer margin of the elytra and the elytral epipleurae are metallic green, the sutural margins narrowly edged with pitchy brown.

The whole insect is sparsely covered with elongate hair-like white scales which on the elytra are only present along the basal and lateral margins and on the epipleurae; on the legs and abdomen these scales are very small, on the tarsi they are wanting; the under surface of the tarsi and of the tibiae and the tip of the mentum are clothed with golden ferruginous hairs.

The mandibles are broadest at the base and strongly curved downwards in their apical half; their outer margin

rather regularly convex, their inner margin armed, a little before the base, with a small tooth, and midway between this and the large post-median tooth two very small teeth are present, which are accompanied by some inconspicuous undulations of the margin; the ante-apical tooth is strong and obliquely truncate at the tip, and between it and the apex of the mandible are four small teeth. Moreover the mandibles are provided on the outer margin of their under surface, a little before the base, with a very distinct tooth. The mandibles are extremely densely and finely granulated and thereby opaque, with the exception, however, of the tips of the teeth and the apical portion which are glossy.

The upper side of the head shows a large semilunar flattened depression which does not quite extend to the front-margin of the thorax; laterally this depression is bordered by a sharply raised margin, which is continued to the sides in front of the eyes; outside of this margin the sculpture of the head is very rough in consequence of irregularly arranged ridges, the interspaces of which show some punctures. In front of the semilunar depression, the front-margin of which is bisinuate, the head slopes slowly and ends in the middle in a processus which widens out at the tip and has the front-margin broadly emarginate in the middle.

The sides of the prothorax are angular about the middle; the front-margin is accompanied by a very regularly continued narrow groove, and a shallow impression runs along the middle. The sculpture of the pronotum is similar to that of the mandibles and of the depressed and declivous portion of the head, but coarser, especially at the sides, and along the middle the granulations are replaced by some large punctures.

The elytra are subshining in consequence of an extremely fine sculpture which is somewhat coarser at the extreme base and is wanting along the suture where a few small but distinct punctures occur. Two faint longitudinal costae are present on each elytron.

The under surface of the head and the sterna are densely and finely granulated, the abdomen and femora shallowly punctured, each puncture bearing a narrow white scale. The prosternum is keeled along the middle, and the intercoxal part strongly elevated and, posteriorly, compressed. The metasternum has, just behind each intermediate coxa, an excavation, which excavations are separated by the raised anterior portion of the central line.

The fore-tibiae are straight, not very elongate, and without any spine on the outside.

The described male-specimen, a representative of the forma maxima, originates from Padang Sidempoean (Tapanoeli Residency: West Sumatra) and has been offered last year to the Leyden Museum, together with other very interesting beetles from the same locality, by Mr. J. D. Pasteur, whose name I have much pleasure in associating with this conspicuous species.

Cyclommatus canaliculatus, n. sp. ♂, ♀.

Likewise a very interesting species and easily recognizable by the very distinct median groove on the pronotum, which groove becomes deeper towards the base in consequence of the raising margins. Moreover the outer upper margin of the mandibles is notched at some distance from the tip so as to form here a small tooth.

Length of a male of the forma maxima 50 mm., breadth at the shoulders 11 mm. — Dark red-brown, with faint tinges of metallic green and purple, the margins of the mandibles and of the prothorax, the front-margin of the head and the outer margin of the elytra blackish; the antennae and tarsi pitchy black, the upper side of the femora pale yellowish brown.

The whole insect is sparsely (from abrasion?) covered with small ovate dirty grey scales; the tarsi are glabrous with the exception of the under surface which is densely covered with pale ferruginous hairs.

The mandibles are long, as long as the distance between the front-margin of the head and the posterior coxae, their outer margin is straight at the basal third, thence slowly curved inwards and downwards, their inner margin armed at about one third of its length with a strong tooth which is slightly directed forward; between the ante-apical tooth, which is obliquely truncate at the tip, and the apex of the mandible three small teeth are present. On the apical third of the mandibles the outer upper margin rises slowly, but opposite the front-margin of the ante-apical tooth this raised margin ends suddenly so as to form here a small toothlike projection. The mandibles are densely and extremely finely granulated, sub-opaque, with the exception, however, of the apical portion which is glossy.

The upper side of the head shows a large flattened depression, which extends as far as the front margin of the thorax; laterally the margin of this depression is slightly raised and joins the sides of the head in front of the eyes; outside of this depression the head is roughly sculptured, the sculpture of the depression itself is similar to that of the mandibles but somewhat coarser. The front-margin of the head between the outer margins of the mandibles is broadly bisinuate, and beneath it the head is deeply excavated; the clypeus is slightly declivous, its front-margin bisinuate, the middle lobe slightly upturned.

The sides of the prothorax have an angular tooth about the middle; the front-margin is accompanied by a groove which is interrupted in the middle and widened out towards the sides; along the middle a distinct groove is present [1]), which at the base of the thorax becomes deeper in consequence of the raising margins. The pronotum is very densely sculptured, and the narrow interspaces are irregularly flowing together.

The elytra are rather densely covered with very distinct punctures, very densely however along the base and sides;

1) A faint continuation of this groove is to be observed on the base of the head.

each elytron shows two indistinct costae, of which the outermost runs along a raised streak ending in the apical callus, and moreover a longitudinal impression commencing behind and just within the shoulder and obliquely widening out towards the suture.

The sculpture of the under surface is very fine, with a few large punctures on the glossy portions of the head. The prosternal process is narrow and conically projecting. The fore-tibiae are straight and unarmed.

Length of a male of the forma media 36 mm., breadth at the shoulders $8^1/_2$ mm. — Agreeing with the forma maxima, but the colours are brighter and the insect is more densely covered with scales.

The mandibles are shorter, having the length of the distance between the front-margin of the head and the intermediate coxae; they are more regularly curved inwards along their whole length, and the strong ante-basal tooth is replaced, very near to the base, by a broad process which is bicuspidate on the left, tricuspidate on the right mandible.

The front-margin of the head between the outer margins of the mandibles is broadly emarginate forming a regularly curved line; at this line the head sinks suddenly down towards the clypeus which is declivous and similar in shape to that of the forma maxima; the middle lobe of the front-margin, however, is not upturned.

On the thorax the groove which accompanies the front-margin is inconspicuous, and that along the middle less distinct, but at the base the raised margins are still observable.

The longitudinal impressions on the elytra are less distinct, and the prosternal process not so strongly projecting. The tibiae are likewise unarmed.

Length of a female $18^1/_2$ mm., breadth at the shoulders $6^1/_2$ mm. — The colour is dark red-brown, the upper side of the femora, however, pale yellowish brown, the tarsi, antennae, palpi and apical half of mandibles pitchy black. The head has a round spot on the centre and another behind each eye blackish with a bronze hue; the central

one is convex. On the pronotum two stripes, an elongate central spot and a spot on the middle of the sides touching the margins are bronze black, and these markings are more or less united along the margins of the thorax. The scutellum and the sutural and lateral margins of the elytra are blackish, the latter with a bronze hue, and an indistinct infuscate stripe runs from the shoulders backwards. The punctuation is strong, somewhat finer but closer set on the elytra than on the head and pronotum. The under surface is bronze coloured and, as well as the legs, covered with a scale-bearing punctuation. Besides the apical tooth, the fore-tibiae have on their outer margin three sharp teeth which become larger towards the end of the tibiae; the middle- and hind tibiae are armed beyond the middle with a distinct tooth.

Hab. The island of Nias, West of Sumatra. — The described three specimens were presented to the Leyden Museum by Mr. J. D. Pasteur.

As yet only five species of Lucanidae are known from Nias, and these are all-together represented in the Leyden Museum, viz. *Cyclommatus Maitlandi* Parry, *Cyclommatus canaliculatus* Rits., *Odontolabis gracilis* Kaup, *Odontolabis inaequalis* Kaup and *Eurytrachelus Titan* Boisd.

N.B. Together with *Cyclommatus Pasteuri* Rits. ♂, the following beetles are represented on plate 10:

Fig. 2. *Lamprophorus nepalensis* Gray, bred from the larva (fig. 2[a]) by Mr. J. D. Pasteur (see: Tijdschrift voor Entomologie, Vol. XXXIV (1891), p. CXIV).

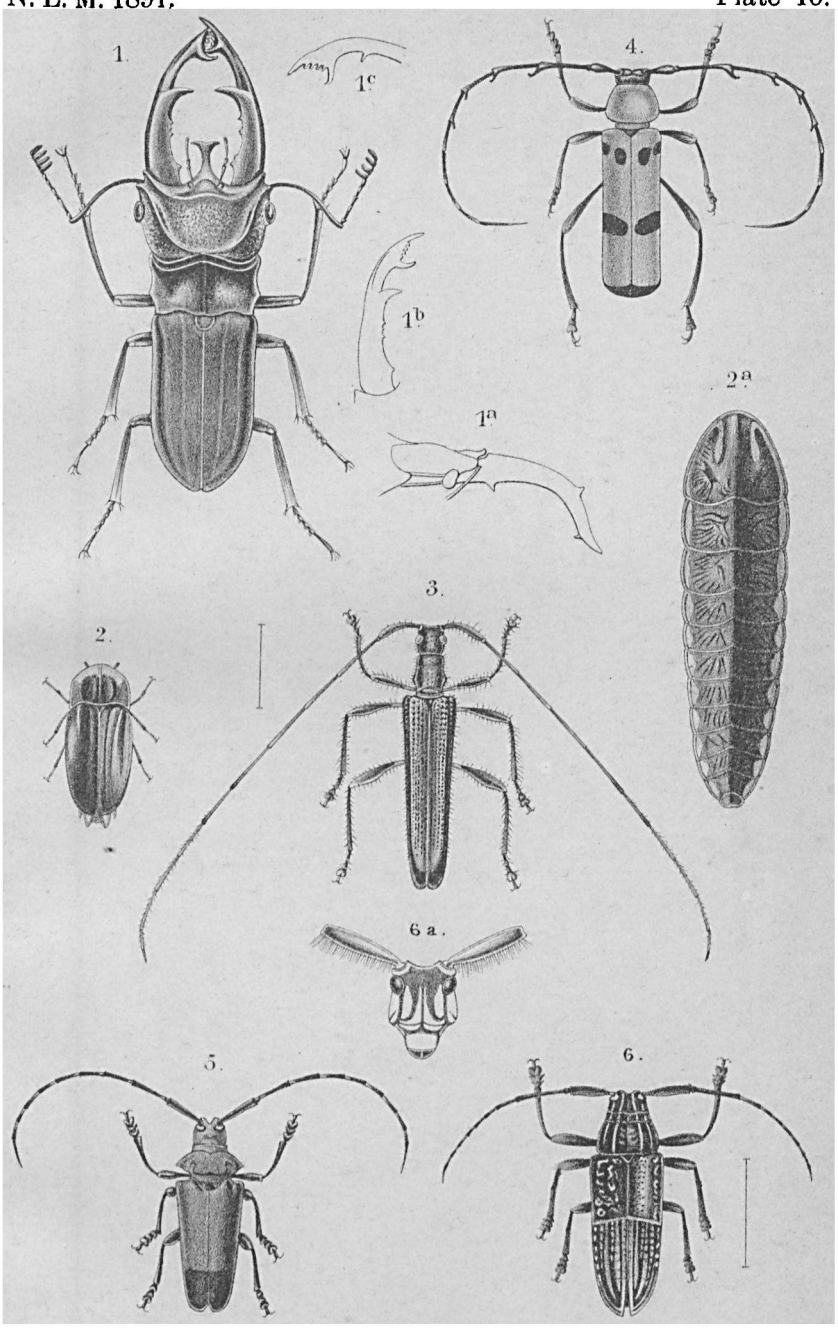
Fig. 3. *Noëmia apicicornis* Rits. ♂, from East Sumatra (Notes Leyden Museum, XII (1890), p. 136).

Fig. 4. *Eurybatus inexspectatus* Rits. ♂, from East Java (Notes Leyden Museum, XII (1890), p. 135).

Fig. 5. *Thermonotus Pasteuri* Rits. ♂, from Nias (Notes Leyden Museum, XII (1890), p. 248).

Fig. 6. *Atossa bipartita* Rits. ♀, from Borneo (Notes Leyden Museum, XII (1890), p. 250).

Leyden Museum, September 1891.



W. F. Jacobs ad nat. del. A. J. J. Wendel lith. P. W. M. Trap impr.

1. Cyclommatus Pasteuri *Rits.*
2. Lamprophorus nepalensis *Gray.*
3. Noëmia apicicornis *Rits.*
4. Eurybatus inexspectatus *Rits.*
5. Thermonotus Pasteuri *Rits.*
6. Atossa bipartita *Rits.*